Standards of Public Land Health
Evaluation of 64030 CHIMNEY CANYON Allotment
[11/28/2006]

The Roswell Field Office conducted (RHA) Rangeland Health Assessments at 11 study sites within Chimney Canyon, allotment #64030. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of these field assessments. A summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64030-BIG CREEK 1-F170	X			X			N/A		
64030-BIG CREEK 2-F171	X			X			N/A		
64030-CATTLEGUARD-F167	X			X			N/A		
64030-EAST-F173	X			X			N/A		
64030-HOUSE-F174	X			X			N/A		
64030-LITTLE CREEK-F169	X			X			N/A		
64030-MIDDLE-F177	X			X			N/A		
64030-SOUTH-F175	X			X			N/A		
64030-SW-F172	X			X			N/A		
64030-TANK-F168	X			X			N/A		
64030-WEST-F176	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Chimney Canyon, allotment #64030. Ten of these assessed soil site stability; 11 hydrologic function; and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on 11 trend plot locations within this allotment were utilized to make rangeland health determinations. Quantitative evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover

and composition, production, frequency and ecological condition. These collections, which were initiated in the late 1970's/early 1980's, are scheduled and conducted approximately every 5 years.

There are eleven study sites on this allotment. All were visited between November 29, 2006 and April 20, 2007. Four sites are Loamy CP-2; four are Very Shallow CP-4; one is a Deep Sand CP-2; one is a Shallow Sand CP-2; and one is a Loamy CP-3. The allotment contains 16 pastures (three are traps) with study sites in ten of the pastures. Big Creek pasture contains two study sites. These sites are intended to serve as key areas for the pastures and provide an indication of rangeland health for the pastures and for the allotment.

The allotment is used by cattle. Grazing use was noted in eight of the pastures visited. In these pastures, overall use was generally light at the time of the visit, and use was mostly on grasses such as black grama and blue grama. Moderate to heavy use on black grama was noted at site 64030-BIG CREEK 1-F170.

Soil stability ranges from very stable to relatively stable throughout the allotment. No significant departures were identified at any of the study sites. Pedestalling was apparent at ten of the sites. One site showed a "moderate" departure from the respective ESD which meant that active pedestalling was occurring. Gullies were noted at two of the study sites and were associated with roads.

Hydrologic Function was similar to Soil Stability. In general, herbaceous ground cover was either near or exceeded expected values. A few areas had less herbaceous ground cover than expected along with bare or exposed areas that were resulting in reduced infiltration and increased runoff. A few areas are trending toward a "moderate" departure from the ESD due to changes in herbaceous ground cover. Often, these areas were associated with a substantial increase in broom snakeweed over what is expected in the respective ESDs.

Biotic integrity remains adequate throughout the allotment; however, all areas show a change in vegetative composition from that expected in the respective ESDs. In most cases, desirable forage grasses have been reduced. Most areas show an increase in the shrub / half shrub component. Broom snakeweed is more abundant and in some cases a lot more abundant than expected in the ESDs. Loamy areas have typically changed to a tobosa grass dominated community with a reduction in desirable forage grasses such as black grama and blue grama. Non-loamy areas have typically moved toward a threeawn dominated grassland. None of the sites, however, had departed enough to warrant a "moderate" rating for Functional / Structural Groups, but a few are trending toward "moderate". Invasive plants are not a significant problem on the allotment at this time. However, cholla, the most notable invasive plant, appears to be increasing on several sites. On four sites, the presence of cholla resulted in a "moderate" rating.

Habitat for pronghorn and mule deer was satisfactory for most of the allotment. There is a moderate departure in the Deep Sand CP-2 areas. The increase in the shrub component has reduced the habitat quality for pronghorn.

The following discussion is a site by site, pasture by pasture evaluation.

Big Creek pasture has two study sites, #1 and #2. This pasture contains approximately 2610 acres. The majority of the pasture is private land with lesser amounts of public and state land. Site #1 is on private land and is within a Loamy CP-2 ecosite. Site #2 is on public land and is within a Shallow Sand CP-2 ecosite. According to GIS, other ecosites in the pasture include a Shallow CP-2, Sandy Plains CP-2, Limestone Hills CP-4 and Very Shallow CP-4. Terrain within the pasture ranges from nearly flat to gently sloping and undulating. Elevation ranges from approximately 4200 to 4300 feet. Salt Creek runs through the northern part of the pasture. Cattle were in the pasture at the time of the visit. Overall grazing use was light, but in the vicinity of Site #1, use on black grama was moderate to heavy. Use near Site #2 was light on blue grama.

At Site #1, soil was stable with minimal signs of erosion. All soil stability indicators were "slight to moderate" or "none to slight". There has been some soil loss as indicated by plant pedestals, but there was no sign of active pedestal formation. There were no gullies on site, but there were gullies in the vicinity associated with roads.

Hydrologic function was rated similarly. Herbaceous ground cover was greater than expected in the ESD.

Indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual production relatively high compared to the production potential for the ecosite (> 80% of potential). There has been a shift in the vegetative composition compared to the ESD. Consequently F/S Groups rated "slight to moderate". The site is still dominated by black grama, but there appears to be less diversity than expected in the ESD. Tobosa grass is patchy on the site and there is an increase in broom snakeweed. Invasive Plants rated "none to slight". There were a few, very widely scattered cholla on the site.

The area is satisfactory for pronghorn and mule deer.

For Site #2, soil was stable with minimal signs of erosion. All soil stability indicators were "slight to moderate" or "none to slight". There has been a slight soil loss as indicated by a few plant pedestals, but there was no sign of active pedestal formation. Bare ground was less than expected for the site. There were no gullies on site.

Hydrologic function was rated similarly. Herbaceous ground cover was greater than expected in the ESD. Indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, however, annual production was less than expected compared to the production potential for the ecosite (60 - 80% of potential). F/S Groups rated "slight to moderate" due to a shift in the composition of the grass community. Threeawns are the dominant grasses. Gramas should dominate, but are still well represented except for sideoats grama. Tobosa grass and galleta grass are also very common and are not expected for Shallow Sand CP-2 site. Invasive Plants rated "slight to moderate" due to cholla being widely scattered throughout the site.

The area is satisfactory for pronghorn and mule deer.

Cattleguard pasture with its study site was visited on November 29, 2006. This pasture contains approximately 1453 acres. The pasture is comprised mostly of public land with a lesser amount of private. A county road bisects the pasture. The site representing this pasture is within a Loamy CP-2 ecosite. According to GIS, other ecosites within the pasture include Shallow CP-2 and Sandy Plains CP-2. The pasture contains gently sloping, undulating terrain ranging from approximately 4200 to 4330 feet elevation. No livestock were observed in the pasture at the time of the visit, but light grazing use was evident. The two track road leading to this site has rutted and is forming a gully. Watering facilities and a pipeline road are near the study site.

Soils were stable with minimal signs of erosion. All soil stability indicators were "slight to moderate" or "none to slight". There has been a slight soil loss as indicated by a few plant pedestals, but there was no sign of active pedestal formation. Bare ground was less than expected for the site. There were no gullies on site, but a gully is forming in association with the road accessing this site.

Hydrologic function was rated similarly. Herbaceous ground cover was greater than expected in the ESD. Plant Community and Distribution Relative to Infiltration and Runoff rated "slight to moderate" and is trending to "moderate" due to shrub encroachment that is beginning nearby.

Indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual production relatively high compared to the production potential for the ecosite (>80% of potential). F/S groups rated "none to slight", but there has been a slight shift in the composition of grasses as compared to the ESD. Invasive Plants rated "none to slight". There are a few very widely scattered cholla on the site.

The area is satisfactory for pronghorn and mule deer.

East pasture with its study site was visited on April 20, 2007. This pasture contains approximately 1467 acres. About 42% of the pasture is private land; 2% is state land and 56% is public land. The site representing this pasture is located on public land near the southwest corner of the pasture next to the west division fence and is within a Very Shallow CP-4 ecosite. According to GIS, other ecosites within the pasture include Sandhills CP-2, Shallow CP-2, and Sandy Plains CP-2. About a third of the pasture contains a shrub / juniper woodland component. The pasture contains gently sloping, undulating terrain ranging from about 4260 to 4360 feet in elevation. The pasture is bisected by Salt Creek. No grazing use was observed at the time of the visit.

Soil was stable with minimal signs of erosion. All soil stability indicators were "slight to moderate" or "none to slight". The area had lots of surface rock lending stability to the site. Pedestal formation was minimal with minimal soil loss.

Hydrologic function was rated similarly. Herbaceous ground cover was greater than expected in the ESD.

Indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, however, annual production was less than expected compared to the production potential for the ecosite (60 - 80% of potential). F/S Groups rated "slight to moderate" due a slight shift in the composition of the grass community. There was good species diversity, but snakeweed was much higher than expected and threeawns were higher than expected. Invasive Plants rated "slight to moderate" due to cholla being widely scattered throughout the area along with the substantial increase in broom snakeweed compared to the ESD.

Habitat is satisfactory for mule deer and pronghorn.

House pasture with its study site was visited on April 20, 2007. According to GIS, the pasture contains approximately 1185 acres. About 640 acres is private land. It appears that this private land section has been fenced separately making the House pasture approximately 545 acres, all public land. The study site representing this pasture is located on public land near the private land division fence and the south pasture division fence. It is within a Very Shallow CP-4 ecosite. According to GIS, most of the current pasture is comprised of Very Shallow CP-4 with a small amount of Loamy CP-3. The pasture contains gently sloping, undulating terrain ranging from about 4330 to 4430 feet in elevation. Catclaw Canyon runs through the pasture. At the time of the visit, no livestock were observed in the pasture, but light grazing use was evident and was mostly on black grama.

Soil on this site was relatively stable. All soil stability indicators were "slight to moderate" or "none to slight". There is a lot of surface rock lending stability to the site. There has been some soil loss as indicated by pedestalling. Water flow patterns were typically short and stable, but are trending toward moderate due to an increase in shrubs and half shrubs.

Hydrologic function was rated similarly. Plant Composition and Distribution Relative to Infiltration and Runoff rated "slight to moderate" but is trending toward "moderate" due to the increase in shrubs and half shrubs, particularly broom snakeweed.

Indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the total annual production relatively high compared to the production potential for the ecosite (>80% of potential). Much of this production, however, is due to snakeweed. Grass production would be 40 - 60% of potential. F/S Groups are trending toward "moderate". Along with the increase in snakeweed, threeawns have increased and black grama and other gramas have decreased, but black grama is still well represented in the composition. No invasive plants were noted.

Habitat is satisfactory for mule deer and pronghorn.

Little Creek Pasture with its study site was visited on November 29, 2006. This pasture contains approximately 1115 acres. Approximately 45% is public land; 4% is state land; and 51% is private land. According to GIS, the study plot that represents this pasture is located on private land next to the west pasture division fence. This site is within a Deep Sand CP-2 ecosite. According to GIS, other ecosites within this pasture include Sandy Plains CP-2, Shallow CP-2,

and Loamy CP-2. The pasture contains gently sloping, undulating terrain ranging from approximately 4200 to 4300 feet in elevation. Salt Creek bisects the pasture. The Sandy ecosites, which represent about half of the pasture, have a shrub / juniper woodland component. At the time of the visit, no livestock were observed, but recent, light use was evident. Cow trails passed through the site.

Soil was relatively stable given the sandy nature of the site. There has been some soil loss as indicated by the presence of flow patterns and pedestals (both rated "slight to moderate"). The percent of bare ground was estimated to be approximately 55% compared to the 35% expected in the ESD. Consequently, this indicator rated "moderate". Soil Surface Resistance to Erosion is slightly reduced throughout the site.

Hydrologic function was rated similarly. Herbaceous ground cover was estimated to be near what is expected for the site.

Most indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, but overall production was less than expected (60 - 80% of potential). Individual grass plants were very vigorous, but grass production was substantially less than the potential for the site which is 1960 lbs/ac. The most productive year recorded for grasses showed about 400 lbs/ac, which would be about 20% of potential. This would be a "moderate to extreme departure" from the ESD. Shrub production (mostly shinnery oak) is about double that expected for the site. Invasive Plants rated "slight to moderate" due to an increase in snakeweed, cholla and the presence of juniper on a nearby ridge.

The increase in the shrubby component has caused the quality of habitat for pronghorn to decline. Therefore Wildlife Habitat rates "moderate" (41-60% of the habitat is satisfactory for pronghorn). The site now provides fair to good habitat for mule deer.

Middle pasture with its study site was visited on April 20, 2007. This pasture contains approximately 1697 acres. About 2/3 of the pasture is public land with the remaining 1/3 being private land. The site representing this pasture is on public land and is within a Very Shallow CP-4 ecosite. Most of the pasture is comprised of this ecosite. A lesser amount of Loamy CP-3 is also included in the pasture. A large part of this pasture is flat. The rest of the pasture is gently sloping, undulating terrain. Elevation ranges from about 4360 to 4460 feet. At the time of the visit, no cattle were observed in the pasture and no grazing use was evident. Soil was relatively stable. There has been some soil loss as indicated by pedestal formation. There is a lot of surface rock and pavement that lends stability to the site. Soil Surface Resistance to Erosion has been reduced in the plant interspaces.

Hydrologic function was rated similarly. Herbaceous ground cover was near expected, but there has been a significant increase in snakeweed over expected. The increase in the shrub component is having a minor effect on runoff and infiltration.

Most indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual

production relatively high compared to the production potential for the ecosite (>80% of potential). Shrubs and half shrubs (snakeweed) have increased. There has been a shift in the composition of grasses. Threeawns are the dominant grasses. Black grama is still well represented. Consequently, F/S Groups rated "slight to moderate" but is trending to "moderate". Invasive Plants rated "moderate" due to cholla being scattered throughout the site.

Wildlife habitat is satisfactory for pronghorn and mule deer.

South pasture with its study site was visited on April 20, 2007. This pasture contains approximately 3186 acres. Approximately 30% of the pasture is public land and 70% is private land. The site representing the pasture is located on public land near the center of the pasture and is within a Loamy CP-3 ecosite. (This site seems to fit better with a Loamy CP-2.) According to GIS, other ecosites within the pasture include Very Shallow CP-4, Shallow Sand CP-2, and Shallow CP-3. The pasture contains gently sloping, undulating terrain ranging from approximately 4330 to 4460 feet in elevation. Chimney Canyon runs through the northern half of the pasture. At the time of the visit, cattle were in the pasture. There was light grazing use on black grama.

Soil was very stable on this site. There was very little evidence of erosion. All but one of soil stability indicators rated "none to slight".

Hydrologic function was rated similarly. Herbaceous ground cover was high with little evidence of runoff.

Most indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual production relatively high compared to the production potential for the ecosite (>80% of potential). There has been shift in the vegetative composition compared to the ESD. F/S Groups rated "slight to moderate", trending toward "moderate". Tobosa and galleta grass are by far the dominant grasses. Blue grama and black grama are still fairly well represented but are significantly reduced from the expected amounts. Invasive Plants rated "moderate" due to cholla being scattered throughout the site.

Wildlife habitat is satisfactory for pronghorn and mule deer. Southwest pasture with its study site was visited on April 20, 2007. This pasture contains approximately 1704 acres. Most of the pasture is public land with a lesser amount of private land. The study site representing this pasture is located on public land near the south central part of the pasture and is within a Very Shallow CP-4 ecosite. According to GIS, other ecosites within the pasture include Shallow Sand CP-2 and Loamy CP-2. This site does not fit well with a Very Shallow CP-4. Based on the vegetation, it fits better with a Loamy CP-2. The pasture contains gently sloping, undulating terrain ranging from approximately 4300 to 4460 feet in elevation. At the time of the visit, there was no apparent grazing use.

Soil was relatively stable, but there was evidence of soil loss and active pedestalling. Slight active pedestalling was occurring in exposed areas and in flow patterns. Bare ground was less

than expected for the site (estimated to be about 25%). There were no rills or gullies on site. There was some reduction in resistance to erosion in the interspaces and exposed areas.

Hydrologic function was rated similarly. Herbaceous ground cover was near what is expected for the site.

Indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual production relatively high compared to the production potential for the ecosite (>80% of potential). There has been a change in grass composition compared to the ESD. Vegetation at the site was more consistent with that expected for a Loamy CP-2 ecosite. Tobosa and galleta grass would not normally be expected on a Very Shallow CP-4, and these grasses were common in the composition. Diversity of grasses was fairly good. Gramas were reduced from expected, but according to the data, black grama is still the dominant grass. Threeawns, particularly purple threeawn, appeared to be increasing on the site. Consequently, F/S Groups rated "slight to moderate". Invasive Plants rated "slight to moderate". Cholla were rare in the immediate vicinity of the study plot but were scattered on adjacent areas.

Wildlife habitat is satisfactory for pronghorn and mule deer.

Tank pasture with its study site was visited on April 20, 2007. This pasture contains approximately 2308 acres. Most of the pasture is public land with lesser amounts of private and state land. The study site representing this pasture is located on public land and is within a Loamy CP-2 ecosite. According to GIS, most of the pasture is a mixture of Loamy CP-2 and Shallow Sand CP-2. The pasture contains nearly flat terrain ranging from approximately 4260 to 4330 feet in elevation. At the time of the visit, cattle were in the pasture, but no grazing use was evident near the study plot.

Soil is relatively stable, but there has been some soil loss as indicated by pedestalling. Bare ground was estimated to be less than expected for the site. Litter movement was minimal on this nearly flat site. Plant interspaces and exposed areas showed some reduction in soil surface resistance to erosion.

Hydrologic function was rated similarly. Herbaceous ground cover exceeded that expected for the site. However, the lack of good herbaceous cover on patchy exposed areas was affecting runoff and infiltration.

Most indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual production relatively high compared to the production potential for the ecosite (>80% of potential), but much of this production is due to the increase in broom snakeweed. Grass production is less than the average expected for the ESD. The area is heavily dominated by tobosa and galleta grass. Black grama and blue grama are substantially reduced in the composition. Snakeweed has increased substantially over what is expected in the ESD. Consequently, F/S Groups rated "slight to moderate" and is trending to "moderate". Invasive Plants rated "moderate" due to cholla being scattered throughout the site.

Wildlife habitat is satisfactory for pronghorn and mule deer.

West pasture with its study site was visited on April 20, 2007. This pasture contains approximately 2913 acres. Almost all of the pasture is public land. The study site representing this pasture is located on public land near the east pasture fence and is within a Loamy CP-2 ecosite. According to GIS, most of the pasture is within a Very Shallow CP-4 ecosite. Other ecosites include Shallow Sand CP-2 and Loamy CP-3. The pasture contains moderately sloping, undulating terrain ranging from approximately 4400 to 4600 feet in elevation. Catclaw and Chimney Canyons drain this pasture. At the time of the visit, cattle were not observed in the pasture; however, there appeared to be a slight amount of grazing use.

Soil was stable, but a slight amount of soil loss has occurred as indicated by the presence of plant pedestals. Bare ground was less than expected for the site. Water flow patterns were short and stable. There were no rills or gullies in the vicinity of the study site.

Hydrologic function was rated similarly. Herbaceous ground cover exceeded that expected for the site. Litter movement was minimal. Litter was uniformly distributed throughout the site.

Most indicators assessing biotic integrity for the site fell into "slight to moderate" or "none to slight". Late growing season precipitation was greater than normal in 2006, making the annual production relatively high compared to the production potential for the ecosite (>80% of potential). F/S Groups is borderline with "moderate" due to the heavy dominance of tobosa grass. Grama grasses are substantially deficient in the composition according to the data. Invasive Plants rated "moderate" due to cholla being scattered throughout the site.

Wildlife habitat is satisfactory for pronghorn and mule deer.

Recommendations: All study sites show a shift in the composition within the grass community. Consider alternating or changing the timing and duration of grazing to allow desirable forage plants to re-establish and reproduce. Juniper encroachment is occurring in a few pastures. Treatment (i.e. hand cutting or mechanical cutting) would help maintain the grassland condition.

Gullies are rare on the allotment and are associated with roads. All the roads within this allotment should be evaluated for this condition and corrective measures taken.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64030-BIG CREEK 1-F170			
Legal Land Desc	SWSW 4 0090S 0210E Meridian 23	Acreage	465
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON; DILLEY	Observation Date	04/20/2007
County Soil	NM644 CHAVES NORTH	Soil Var/Taxad	

Survey			
Soil Map Unit	CRB	Soil Taxon Name	CONGER
Texture Class	NM644 SIL	Soil Phase	CONGER-REAGAN
Texture Modifier	NM644 LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	A two track road passes through the site. Cattle are in the pasture, but there does not appear to be any current grazing in the vicinity of the study site. Last season's use on black grama appears heavy. A cow trail passes through the site.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	No rills.					
S H	Water Flow Patterns				X	
Comments:	Short and stable					
S H	Pedestals and/or Terracettes				X	
Comments:	Present in interspaces. Few active. Most look like they formed in the past. This is a flat site.					
S H	Bare Ground					X
Comments:	Less than expected for the ecosite.					
S H	Gullies					X
Comments:	None on site, but there are a few that are associated with roads.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X

Comments:	Litter is evenly distributed.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Aggregate stability is good. There is some reduction in resistance to erosion in the interspaces.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	There has been some soil loss as indicated by pedestalling.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:	Herbaceous ground cover is greater than expected.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	There are fewer grass species than expected, but Black grama is still the dominant grass. Snakeweed is much greater than expected.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Greater than expected for this year.					
B	Annual Production					X
Comments:	Greater than 80% of potential for total production. Grass production might be 60% of potential.					
B	Invasive Plants					X
Comments:	There are a few cholla.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout but continuity is broken.					
B	Wildlife Habitat					X
Comments:	Good for antelope and mule deer.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					

B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	5	5
H	Hydrologic	0	0	0	4	7
B	Biotic	0	0	0	4	9

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are stable with few signs of erosion.	0	0	10
Hydrologic		0	0	11
Biotic	Production is good. Litter amount is good. Black grama is still dominant.	0	0	13

Site Notes: Soils are stable with minimal signs of erosion. Site is still dominated by black grama, but there appears to be less diversity than expected in the ESD. Tobosa grass is patchy on the site. There is an increase in snakeweed.

Plants encountered included:

cholla, snakeweed, tobosa grass, black grama, burrograss, woolly groundsel

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-BIG CREEK 2-F171

Legal Land Desc	SESW 10 0090S 0210E Meridian 23	Acreage	465
Ecosite	070BY062NM SHALLOW	Photo Taken	Y

	SAND CP-2		
Watershed	13060005070 SALT		
Observers	BRITTON; REBITZKI	Observation Date	04/19/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	BQB	Soil Taxon Name	BLAKENEY
Texture Class	NM644 FSL	Soil Phase	BLAKENEY-IMA
Texture Modifier	NM644 FINE SANDY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	Cattle (yearlings) were in the pasture at the time of the visit. Grazing use at this time was light and mostly on blue grama. A cow trail passes through the site.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	No rills.					
S H	Water Flow Patterns				X	
Comments:	Flow patterns are slight. The area around the study plot is nearly flat.					
S H	Pedestals and/or Terracettes				X	
Comments:	Very few pedestals.					
S H	Bare Ground					X
Comments:	Less than expected.					
S H	Gullies					X
Comments:	None on site.					
S	Wind-scoured, Blowouts, and/or					X

	Deposition Areas					
Comments:						
H	Litter Movement				X	
Comments:	There is some litter movement, but litter is uniformly distributed.					
S H B	Soil Surface Resistance to Erosion					X
Comments:	Mod - high soil aggregate stability in the interspaces. There is good litter cover and bare areas are small.					
S H B	Soil Surface Loss or Degradation					X
Comments:	Minimal soil loss. Matches what is expected for the site.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:	Herbaceous ground cover exceeds what is expected for the site. Bare areas are uncommon.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	There has been a shift in the composition of grasses. Threeawns are the dominant grasses. Gramas should dominate, but are still well represented except for sideoats grama.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	Is near the expected amount.					
B	Annual Production				X	
Comments:	2006 had good late growing season precipitation. Even so, the production falls short of the potential for the site. Current estimate is about 60% of potential. Data shows the maximum production for everything to be about 75% of potential.					
B	Invasive Plants				X	
Comments:	Cholla are widely scattered throughout the site.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006, but the lack of sideoats grama and the reduction of black grama suggests that this may be a problem.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Biotic crusts are rare, but this is probably consistent with the Shallow Sand site.					

B	Wildlife Habitat					X
Comments:	Satisfactory for antelope and mule deer.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	3	7
H	Hydrologic	0	0	0	4	7
B	Biotic	0	0	0	5	8

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	There is very little evidence of soil loss or movement. Bare ground is less than expected.	0	0	10
Hydrologic		0	0	11
Biotic	Production appears good but is less than expected for the ESD. Litter is as expected for the ESD. There has been a shift in grass composition. Threeawns are now the dominant grasses and gramas have been reduced. According to the data, blue grama and black grama are still reasonably well represented in compositon.	0	0	13

Site Notes: The study site is near the bottom of the slope. Soils are stable. Production appears to be good, but is less than expected in the ESD. There has been a reduction in grama grasses and an increase in threeawns. Tobosa grass and galleta are also very common. There are few shrubs in the immediate vicinity of the study plot. Shrubs are much more evident on the nearby slopes. Cholla may be increasing.

Plants encountered included:

shrubs: Yucca, OPUNT (cholla; prickly pear) forbs: verbena, ASTRA (locoweed), Penstemon spp., Circium spp., ERIGE, Allium spp. grasses: BOGR2, ARIST, ARPU, BOER, HIMU, HIJA, MUAR

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64030-CATTLEGUARD-F167			
Legal Land Desc	NENE 15 0090S 0210E Meridian 23	Acreage	1476
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	SPAIN/NAVARRO/BRITTON/JACKSON	Observation Date	11/29/2006
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	CRB	Soil Taxon Name	CONGER
Texture Class	NM644 SIL	Soil Phase	CONGER-REAGAN
Texture Modifier	NM644 LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	No livestock observed, but recent use evident. Two-track has started to rut and become deeper leading into the site. Pipeline along this access has begun to veg over.		

Part 2. Attributes and Indicators		
		Departure from Ecological Site Description/Ecological Reference Areas

Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground					X
Comments:	Current estimate of bare ground = 20%.					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:	Good ground cover is preventing wind scour.					
H	Litter Movement					X
Comments:	Ground cover prevents much litter movement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Aggregate stability is high in open and closed canopy. Crust formation is abundant, some past erosion is evident.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Aggregate stability indicates presence of organic matter, pedestals indicate some erosion, A horizon present.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Trending towards moderate rating. Infiltration is currently adequate as evidenced by little erosion, but shrub encroachment is beginning to occur off- site but nearby.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups					X
Comments:	Trending toward slight to moderate rating. Species composition is the same as might be expected for the site, however some shrubs including Gusa, Opuntia sp., and Yucca sp. are beginning to encroach and increase in abundance on this site.					
B	Plant Mortality/Decadence					X

Comments:						
H B	Litter Amount					X
Comments:	Current estimate = 25-30%					
B	Annual Production					X
Comments:	Current estimate = 900+ pounds/acre					
B	Invasive Plants					X
Comments:	Small amount of Cholla increasing on site.					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts					X
Comments:	Intact crust (physical and biological) throughout plant interspaces.					
B	Wildlife Habitat					X
Comments:	Good pronghorn country.					
B	Wildlife Populations					X
Comments:						
B	Special Status Species Habitat					X
Comments:						
B	Special Status Species Populations					X
Comments:						

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	3	7
H	Hydrologic	0	0	0	4	7
B	Biotic	0	0	0	2	11

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized

values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	0	13

Site Notes: Possible raptor nests observed in nearby tree canopies. Watering facilities and pipeline road are located directly adjacent to this site. Pipeline road has begun to experience accelerated erosion and as a result traffic has begun to utilize terrain parallel to the designated road-bed.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-EAST-F173

Legal Land Desc	SWSW 7 0090S 0210E Meridian 23	Acreage	818
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	BRITTON; REBITZKI	Observation Date	04/20/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	KEC	Soil Taxon Name	KIMBROUGH
Texture Class	NM644 CBV-L	Soil Phase	KIMBROUGH-DRY ECTOR
Texture Modifier	NM644 GRAVELLY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	No current grazing use.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas

Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	No rills. Lots of surface rock.					
S H	Water Flow Patterns					X
Comments:	Heavily armored with rock. Flow patterns are obscure.					
S H	Pedestals and/or Terracettes				X	
Comments:	Active pedestalling is rare. No terracettes.					
S H	Bare Ground					X
Comments:	Bare patches are very small. There is lots of surface rock.					
S H	Gullies					X
Comments:	A natural draw is nearby that is stable.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement				X	
Comments:	Some displacement, but minimal.					
S H B	Soil Surface Resistance to Erosion					X
Comments:	Surface rock lends stability to the area.					
S H B	Soil Surface Loss or Degradation					X
Comments:	Soil loss is minimal.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:	Herbaceous ground cover is about what is expected.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	Black grama is reduced from expected, but still abundant in the composition. Threeaws are higher than expected. Snakeweed is much higher than expected.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Exceeds expected for the site by a lot.					

B	Annual Production				X	
Comments:	Production looks good but is estimated to be 60 - 80% of potential. Vigor is good.					
B	Invasive Plants				X	
Comments:	Cholla is very widely scattered throughout the site. Snakeweed is much higher than expected in the ESD.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout. Continuity broken.					
B	Wildlife Habitat					X
Comments:	Satisfactory for mule deer and antelope.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	2	8
H	Hydrologic	0	0	0	2	9
B	Biotic	0	0	0	4	9

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are stable with little evidence of erosion. There is lots of surface rock that lends stability to the site.	0	0	10
Hydrologic		0	0	11
Biotic	Area is productive with good species diversity. There is a shift in the grass composition compared with the ESD. Black grama and blue grama are still well represented in the composition. Threeawns are higher than expected. Snakeweed is much higher than expected.	0	0	13

Site Notes: The site is very stable. There is lots of surface rock lending stability to the site. The site is welll vegetated with good production. Good species diversity, but snakeweed is much higher than expected and threeawns are higher than expected.

Plants encountered included: shrubs: GUSA2, OPUNT (cholla and prickly pear), MIAC (catclaw), RHTR (skunkbush), DAFO, Yucca forbs: ERIOG, PLPA (woolly plantain), verbena, others grasses: BOGR2, BOER, TRPI, SPCR, BOCU

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-HOUSE-F174

Legal Land Desc	SWSW 1 0090S 0200E Meridian 23	Acreage	1761
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON; DILLEY	Observation Date	04/20/2007
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	016	Soil Taxon Name	ECTOR
Texture Class	NM632 GR-L	Soil Phase	ECTOR-KIMBROUGH
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg	9.91	NOAA Avg Growing	8.01

Annual Precipitation		Season Precipitation	
Disturbances and Animal Use:	A two track road passes through the site. The site is near a fence corner. No livestock were observed, but there was light grazing use, mostly on black grama.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	No rills.					
S H	Water Flow Patterns				X	
Comments:	Trending toward moderate. Increase in shrubs is resulting in more overland flow.					
S H	Pedestals and/or Terracettes				X	
Comments:	Some active pedestalling, but uncommon.					
S H	Bare Ground					X
Comments:	Much less than expected because of the amount of surface rock and pavement.					
S H	Gullies					X
Comments:	None on site.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:	No evidence of movement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Slight reduction throughout site.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Some soil loss as indicated by pedestalling.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Herbaceous ground cover is somewhat less than expected. Shrubs and half shrubs are greater than expected. This is trending toward moderate.					
S H B	Compaction Layer					X

Comments:						
B	Functional/Structural Groups				X	
Comments:	Trending toward moderate. Snakeweed is much higher than expected. Threeawns are more than expected. Black grama is less than expected but still well represented in the composition.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Greater than expected.					
B	Annual Production					X
Comments:	Estimated to be greater than 80% of potential (largely due to snakeweed production rather than grass production). Grass production would be 40 - 60% of potential.					
B	Invasive Plants					X
Comments:	There are occasional chollas.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses producted seed in 2006.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout, but continuity is broken.					
B	Wildlife Habitat					X
Comments:	Satisfactory for mule deer and antelope.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	5	5

H	Hydrologic	0	0	0	5	6
B	Biotic	0	0	0	4	9

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are relatively stable. The site is well armored with surface rock. There is some soil loss as indicated by pedestalling.	0	0	10
Hydrologic		0	0	11
Biotic	Overall production is good, but grass production is somewhat less than expected. Litter cover is greater than expected. Snakeweed is greater than expected. There has been a shift in grass compostion from expected, but black grama is still well represented in the composition. Threeawns are becoming the dominant grasses.	0	0	13

Site Notes: Soils on this site are relatively stable. There is a lot of surface rock lending stability to the site. There is a shift in vegetative composition. Snakeweed is higher than expected for the site and is having a minor effect on runoff and infiltration. Grass composition has changed from expected. Threeawns have increased and black grama and other gramas have decreased. Black grama is still well represented in the composition. There is a section of private land immediately to the west of the study site that is fenced separately from this pasture, but the pasture configuration in GIS shows this private land to be included in this pasture.

Plants encountered included:

shrubs: MIAC (catclaw), OPUNT (cholla), GUSA2, Artemisia spp. forbs: phlox, SPHAER (globemallow), Lesquerella spp., Camissonia spp (suncup), others grasses: BOER, MUSQ, ARIST, TRPI

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-LITTLE CREEK-F169

Legal Land Desc	NWSW 7 0090S 0210E Meridian 23	Acreage	606
Ecosite	070BY063NM DEEP SAND CP-2	Photo Taken	Y

Watershed	13060005070 SALT		
Observers	SPAIN/NAVARRO/JACKSON/BRITTON	Observation Date	11/29/2006
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	IBB	Soil Taxon Name	IMA
Texture Class	NM644 FS	Soil Phase	IMA-BLAKENEY
Texture Modifier	NM644 FINE SAND		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	No livestock observed, but recent use is evident. Two-track leading into site is old and very seldom used.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground			X		
Comments:	Current estimate = 55%					
S H	Gullies					X
Comments:	Drainage/draw south of site.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						

H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:	moving towards moderate					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	High proportion of Aristida on the site relative to grama. Site is an anomaly for eco-site description. This a sandy site with high percentage of shinnery oak.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	Current estimate = 20 - 30%					
B	Annual Production				X	
Comments:	tending towards moderate					
B	Invasive Plants				X	
Comments:	Gusa, Opuntia (cholla), juniper nearby on ridge.					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crusts only					
B	Wildlife Habitat				X	
Comments:	mule deer and pronghorn habitat Potential habitat for quail.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	No concern					

B	Special Status Species Populations					X
Comments:	No concern					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	5	4
H	Hydrologic	0	0	1	6	4
B	Biotic	0	0	0	8	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	1	10
Biotic		0	0	13

Site Notes: This site is an anomally within the ecological site. This is a deep sandy soil area with shinnery oak. There was ample mule deer droppings. Browsing on oak and skunkbush was evident. Some livestock trailing was observed.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-MIDDLE-F177

Legal Land Desc	NENW 12 0090S 0200E Meridian 23	Acreage	872
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON; DILLEY	Observation Date	04/20/2007
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	

Soil Map Unit	016	Soil Taxon Name	ECTOR
Texture Class	NM632 GR-L	Soil Phase	ECTOR-KIMBROUGH
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	A two track road passes through the site. No cattle were observed. No grazing use was evident at the time of the visit.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Area has a lot of surface rock. Flow patterns are short and stable.					
S H	Pedestals and/or Terracettes				X	
Comments:	Active pedestalling is rare. Past pedestal formation can be seen in flow patterns.					
S H	Bare Ground					X
Comments:	Much less than expected. There is a lot of surface rock and pavement.					
S H	Gullies					X
Comments:	None observed.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement				X	
Comments:	Some displacement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Moderate aggregate stability. Reduced interspace stability.					

S H B	Soil Surface Loss or Degradation				X	
Comments:	There is some soil loss as indicated by pedestals.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Herbaceous ground cover is near expected, but there is a significant increase in snakeweed over expected. Increase in shrub component is having a minor effect on runoff and infilitration.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	Shrubs and half shrubs have increased. There has been a shift in the compostion of grasses. Threeawns are the dominant grasses. Black grama is still well represented. Trending toward moderate.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Greater than expected.					
B	Annual Production					X
Comments:	Total production is greater than 80% of potential, but grass production is estimated to be 40 -60% of potential.					
B	Invasive Plants			X		
Comments:	Cholla is scattered throughout the site.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident thoughout the site, but continuity is broken.					
B	Wildlife Habitat					X
Comments:	Satisfactory for mule deer and pronghorn antelope.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X

Comments:	N/A

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	5	5
H	Hydrologic	0	0	0	6	5
B	Biotic	0	0	1	4	8

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are relatively stable. Some soil loss has occurred as indicated by pedestalling. The site has lots of surface rock that lends stability to the site.	0	0	10
Hydrologic		0	0	11
Biotic	Biotic integrity indicators remain relatively high, but there is a shift in the vegetative composition. Snakeweed has increased over expected. Threeawns are the dominant grasses. Cholla is increasing on the site. F/S Groups are trending toward moderate.	0	1	12

Site Notes: Soils are relatively stable, but there is evidence of soil loss as indicated by pedestalling. There is a lot of surface rock and pavement lending stability to the site. Herbaceous ground cover is as expected for the site. Litter is greater than expected. Overall production is good, but grass production is less than expected given the good precipitation last growing season in 2006. There is more snakeweed than expected and threeawn are the dominant grasses. Black grama is still well represented in the composition.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-SOUTH-F175

Legal Land Desc	SWSE 14 0090S 0200E	Acreage	1658

	Meridian 23		
Ecosite	070CY109NM LOAMY CP-3	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON; DILLEY	Observation Date	04/20/2007
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	014	Soil Taxon Name	DEAMA
Texture Class	NM632 CBV-L	Soil Phase	DEAMA-ROC
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	A two track road passes through the site. A county road passes nearby. Cattle were in the pasture at the time of the visit. Grazing use was light on black grama.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:	Good ground cover. Few interspaces. This is a fairly level site. Flow patterns are obscure and are short and stable where they occur.					
S H	Pedestals and/or Terracettes					X
Comments:	There are a few old pedestals. No active pedestals.					
S H	Bare Ground					X
Comments:	Less than expected at approx. 30%.					
S H	Gullies					X
Comments:	None observed.					

S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:	Some wind movement, but fairly uniform distribution.					
S H B	Soil Surface Resistance to Erosion					X
Comments:	Surface crust has high resistance to erosion. Soil immediately below the surface has low aggregate stability.					
S H B	Soil Surface Loss or Degradation					X
Comments:	Not much soil movement. Little evidence of pedestalling.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:						
S H B	Compaction Layer					X
Comments:	Herbaceous ground cover is much higher than expected for the site.					
B	Functional/Structural Groups				X	
Comments:	The species groups do not fit well with the ESD. Elevationally, it fits better with a Loamy CP-2. According to the data, Galleta grass and tobosa grass are by far the dominant grasses. Blue grama and black grama are still fairly well represented in the composition. This is trending toward moderate.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Litter is greater than expected.					
B	Annual Production					X
Comments:	Estimated to be greater than 80% of potential.					
B	Invasive Plants			X		
Comments:	Cholla are scattered throughout the site.					
B	Reproductive Capability of Perennial Plants					X
Comments:	No apparent reduction in reproductive capability. Desirable grasses produced seed in 2006.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout, but continuity is broken.					
B	Wildlife Habitat					X

Comments:	Satisfactory for pronghorn antelope and mule deer.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	1	9
H	Hydrologic	0	0	0	0	11
B	Biotic	0	0	1	2	10

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are very stable with little evidence of erosion.	0	0	10
Hydrologic		0	0	11
Biotic	Production is good. F/S groups are trending toward moderated due the dominance of tobosa and galleta grass and the reduction of blue grama, black grama and other desirable forage grasses.	0	1	12

Site Notes: Soils are very stable on this site. There is very little evidence of erosion. Herbaceous ground cover is good. Production is good. The site seems to fit better with a Loamy CP-2 rather than a Loamy CP-3. Tobosa and galleta are by far the dominant grasses. Blue grama and black grama are still fairly well represented but are significantly reduced from the expected amounts. Cholla are scattered throughout the site, not limited to areas of past disturbance.

Plants encountered included: shrubs: OPUNT(cholla), GUSA2, YUCCA forbs: PLPA (indian wheat), Verbena, desert holly, Linum spp., Ephedra spp., Camisonia spp. grasses: BOER, PAHA, HIMU, SCBR

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-SW-F172

Legal Land Desc	NWSW 19 0090S 0210E Meridian 23	Acreage	1429
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	BRITTON; REBITZKI	Observation Date	04/20/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	KEC	Soil Taxon Name	KIMBROUGH
Texture Class	NM644 CBV-L	Soil Phase	KIMBROUGH-DRY ECTOR
Texture Modifier	NM644 GRAVELLY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	No current livestock use.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Short and relatively stable.					
S H	Pedestals and/or Terracettes			X		

Comments:	There is active pedestalling in flow patterns and exposed areas.					
S H	Bare Ground					X
Comments:	Less than expected for the site. Ave is 32%.					
S H	Gullies					X
Comments:	None on site.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement				X	
Comments:	There are minor litter dams and concentrations in flow patterns.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Moderate aggregate stability. Larger, exposed areas are less resistant.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	There has been some soil loss as indicated by pedestalling particularly in flow patterns.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:	There is good herbaceous ground cover for the site.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	There has been a shift in the expected grass community. It appears that Hilarias (galleta and tobosa) are among the dominant grasses, which would not normally be associated with a Very Shallow CP-4. But, the data indicates that black grama is still the most common grass. Threeawns (particularly purple threeawn) has increased substantially. .					
B	Plant Mortality/Decadence					X
Comments:	There is a little decadence in the tobosa / galleta grass.					
H B	Litter Amount					X
Comments:	Exceeds expected.					
B	Annual Production					X
Comments:	Exceeds 80% of potential.					
B	Invasive Plants				X	
Comments:	Cholla are rare in the immediate vicinity of the study plot, but are widely scattered on adjacent areas.					

B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout the site, but continuity is broken.					
B	Wildlife Habitat					X
Comments:	Satisfactory for mule deer and pronghorn antelope.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	4	5
H	Hydrologic	0	0	1	4	6
B	Biotic	0	0	0	5	8

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are relatively stable. There is evidence of sheet erosion as indicated by moderate pedestalling. There is good herbaceous ground cover.	0	1	9
Hydrologic		0	1	10

Biotic	Production is good. Litter amounts are greater than expected. Diversity of grasses if fairly good. There has been a shift in the grass community, but black grama remains high in the composition.	0	0	13

Site Notes: Soils are relatively stable, but there has been soil loss as indicated by pedestalling. Bare areas are less than expected. Soil loss is due to sheet erosion. Diversity of grasses is fairly good. There has been a change in grass composition compared to the ESD. Tobosa grass and galleta grass are high in the composition and are not expected in a Very Shallow CP-4 ecosite. Gramas are reduced from expected, but according to the data, black grama is still the dominant grass. Threeawns, particularly purple threeawn, are increasing on the site. This site fits better with a Loamy CP-2.

Plants encountered included: shrubs: GUSA2, OPUNT (cholla), MIAC (catclaw) forbs: Verbena, ERBO (filaree), Allium spp., Solanum spp., others grasses: HIMU, HIJA, BOGR2, BOER, ARIST, ARPU, PAOB, SPCR, SCBR, TRPI

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-TANK-F168

Legal Land Desc	NENE 20 0090S 0210E Meridian 23	Acreage	1590
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON; DILLEY	Observation Date	04/20/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	CRB	Soil Taxon Name	CONGER
Texture Class	NM644 SIL	Soil Phase	CONGER-REAGAN
Texture Modifier	NM644 LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	Cattle were in the pasture, but grazing use was not evident near the study plot. A two track road passes through the site.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas

Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Mostly short and stable. Flow patterns more evident in exposed patches.					
S H	Pedestals and/or Terracettes				X	
Comments:	A few old pedestals.					
S H	Bare Ground					X
Comments:	Less than expected.					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:	Minimal movement. Evenly distributed.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Interspaces show some reduction.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Some soil loss as indicated by old pedestals.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Patchy exposed areas have increased runoff and decreased infiltration.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	Tobosa and galleta grass are by far the dominant grasses. Black grama and blue grama are substantially reduced. Snakeweed is much greater than expected. Trending toward moderate.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	Litter is about what is expected for the site.					

B	Annual Production					X
Comments:	Total production is estimated to be greater than 80% of potential, but grass production is only estimated to be 40 - 60% of potential.					
B	Invasive Plants			X		
Comments:	Cholla are scattered throughout the site.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006, but the reduction of desirable grasses in the composition suggests that this may have been a recurring problem.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout the site, but continuity is broken.					
B	Wildlife Habitat					X
Comments:	Satisfactory for pronghorn antelope and mule deer.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	5	5
H	Hydrologic	0	0	0	6	5
B	Biotic	0	0	1	5	7

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	1	12

Site Notes: Soils are relatively stable, but there has been some soil loss as indicated by pedestalling. There are patchy exposed areas that are less resistant to erosion. The area is heavily dominated by tobosa and galleta grass. Black grama and blue grama are substantially reduced in the composition. Snakeweed has increased substantially over what is expected in the ESD. Cholla are scattered throughout the site. Overall production is high due to the increase in snakeweed. Grass production is less than the average expected for the ESD.

Plants encountered included: shrubs: GUSA2, OPUNT (cholla) forbs: Verbena, SPHAER (globemallow), Cryptantha spp., Lesquerella spp., ASTRAG (locoweed), PLPA (indian wheat), Solanum spp., Perezia spp. grasses: BOER, HIMU, HIJA

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64030-WEST-F176

Legal Land Desc	SWNE 10 0090S 0200E Meridian 23	Acreage	1434
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON; DILLEY	Observation Date	04/20/2007
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	003	Soil Taxon Name	BLAKENEY
Texture Class	NM632 FSL	Soil Phase	BLAKENEY-ARCH
Texture Modifier	NM632 FINE SANDY LOAM		
Observed Avg Annual Precipitation	0	Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.63	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.91	NOAA Avg Growing Season Precipitation	8.01
Disturbances and Animal Use:	Plot is next to a pasture fence. A cow trail passes through the site. A two track road passes through the site.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Short and stable.					
S H	Pedestals and/or Terracettes				X	
Comments:	Confined to flow patterns. Not very active.					
S H	Bare Ground					X
Comments:	Less than expected for the site.					
S H	Gullies					X
Comments:	none on site.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:	No discernable movement. Uniformly distributed.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Some reduction in interspaces. Low aggregate stability.					
S H B	Soil Surface Loss or Degradation					X
Comments:	Slight.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:	Herbaceous ground cover is much higher than expected in the ESD.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	The data indicates that tobosa grass is by far the dominant grass. Blue grama and black grama are substantially deficient in the composition compared to the ESD. Trending toward moderate.					
B	Plant Mortality/Decadence					X
Comments:						

H B	Litter Amount					X
Comments:	Higher than expected this year.					
B	Annual Production					X
Comments:	Greater than 80% of potential because of dense tobosa grass.					
B	Invasive Plants			X		
Comments:	Cholla are scattered throughout the site.					
B	Reproductive Capability of Perennial Plants					X
Comments:	Desirable grasses produced seed in 2006, however, the reduced amounts of desirable grasses suggests that this may have been a recurring problem.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Evident throughout, but continuity is broken.					
B	Wildlife Habitat					X
Comments:	Satisfactory for pronghorn antelope and mule deer.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	4	6
H	Hydrologic	0	0	0	3	8
B	Biotic	0	0	1	3	9

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized

values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	1	12

Site Notes: Soils on the site are very stable. There has been some soil loss as indicated by some pedestalling. Pedestalling does not appear to be active. Litter amount was high compared to recent data. Production was high. F/S Groups is borderline with "moderate" due to the heavy dominance of tobosa grass. Grama grasses are substantially deficient in the composition according to the data. Chollas are scattered throughout the site.

Plants encountered included: shrubs: Yucca, GUSA2, OPUNT (cholla) forbs: Verbena, PLPA (indian wheat), Camisonia spp., Cryptantha spp. grasses: HIMU, BOER, SCBR

Determination of Public Land (Rangeland) Health for 64030 CHIMNEY CANYON

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within Frank J. Smith allotment #61001, meets the (1) Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ EDDIE BATESON — 08/24/2007

Assistant Field Manager — Date